WHAT IS CLAIMED IS:

1.   An A/D conversion apparatus of a digital video system, comprising:

an A/D converter for converting an input analog video signal to a digital signal on the basis of a reference voltage value input from an external source and outputting the digital signal; and

a reference voltage supplying portion for supplying the A/D converter with a predetermined number (M) of the reference voltage value sequentially and repeatedly during a predetermined time period, wherein the M of the reference voltage value is obtained by the following equation:

$$V_{REF} = \sum_{i=0}^{M-1} \frac{\Delta}{M} i$$

where VREF is the reference voltage value, and Δ is a quantization step width used during the A/D conversion.

2.   The A/D conversion apparatus of claim 1, wherein the predetermined time period is a horizontal scan period.

3.   The A/D conversion apparatus of claim 1, wherein the predetermined time period is a vertical scan period.

4.   The A/D conversion apparatus of claim 1, wherein the analog video signal is a video signal of an interlaced scan method.

5. The A/D conversion apparatus of claim 1, wherein the analog video signal is a video signal of a progressive scan method.

6. The A/D conversion apparatus of claim 1, wherein the M is 2.

7. The A/D conversion apparatus of claim 1, wherein the M is 4.

8. An A/D conversion method of a digital video system, comprising the steps:

(a) converting an input analog video signal to a digital signal on the basis of a reference voltage value input from an external source and outputting the digital signal; and

(b) supplying the (a) step with a predetermined number (M) of the reference voltage values sequentially and repeatedly during a predetermined time period, wherein the M is obtained by the following equation:

$$V_{REF} = \sum_{i=0}^{M-1} \frac{\Delta}{M} i$$

where V_{REF} is the reference voltage value, and Δ is a quantization step width used during the A/D conversion.

9. The A/D conversion method of claim 8, wherein the predetermined time period is a horizontal scan period.

10. The A/D conversion method of claim 8, wherein the predetermined time period is a vertical scan period.

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11.   The A/D conversion method of claim 8, wherein the analog video signal is a video signal of an interlaced scan method.

12.   The A/D conversion method of claim 8, wherein the analog video signal is a video signal of a progressive scan method.

13.   The A/D conversion method of claim 8, wherein the M is 2.

14.   The A/D conversion method of claim 8, where in the M is 4.